Committee on Resources

Witness Testimony

Testimony of
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before the
U.S. House of Representatives
Subcommittee on National Parks and Public Lands
Oversight Hearing on Science and Resource Management in the National Park System
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Introduction:
Good afternoon Mr. Chairman and members of the Subcommittee. My name is Paul C. Pritchard and I am the President of the National Parks and Conservation Association (NPCA). NPCA is America's only private, nonprofit citizen organization dedicated solely to protecting, preserving and enhancing the National Park System. An association of "Citizens Protecting America's Parks," NPCA was founded in 1919, and today has more than 500,000 members.

On behalf of our association, I commend the subcommittee for holding this hearing today. Effective research and resource management are essential to the future of our national parks and I am encouraged by the Committee's recognition of this important connection. Since its founding in 1919, NPCA has advocated understanding and protecting the national parks through science-based management. In fact, one of the principal goals of our founders was, "to thoroughly study the National Parks and make past as well as future results available for public use."

I am pleased to offer testimony today on the effectiveness of the National Park Service's scientific research program in carrying out the agency's resource protection mission. I also appreciate the Chairman's invitation to comment on previous reviews of that program.

Twice in the past ten years, NPCA has commissioned significant studies of park research. The purpose of these studies was to improve park protection through better research and resource management. A summary of our recommendations is appended to my testimony as Appendix 1 and I would appreciate its inclusion in the hearing record.

I hope that the Appendix will be helpful and I would like to take this opportunity to strongly urge the committee to draft a bill that will mandate the following:

1.A comprehensive program of scientific research in the parks.
2.That the scientific basis for all management decisions be fully documented.
3.That every effort be made to utilize the scientific talent and wealth of knowledge of our nation's universities and that such cooperation be inclusive rather than exclusive.
4.That no research occur in the parks unless it is authorized by the National Park Service.
5.That all findings be made know to the National Park Service and the public and be made available on the World Wide Web.
6.That research priorities be set according to management needs, not solely on the basis of each researcher's personal or institutional interests.
7.That non-profit 501 (c) (3) organizations be given incentives to provide financial support for research in the parks.

Legislative Authority:
The necessity for science-based management of the national parks is not a new idea. Although there is no specific statutory mandate for such research, at least 11 existing laws require some kind of research in the parks . They are:

Lacey Act (1900)
Historic Sites Act (1935)
Wilderness Act (1964)

Concessions Policy Act (1965)
National Historic Preservation Act (1966)
National Environmental Policy Act (1969)
Endangered Species Act (1973)
Clean Air Act (1973)
National Parks and Recreation Act (1978)
Archeological Resources Protection Act (1979)
Native American Graves Protection and Repatriation Act (1990) 1

Commissions and Reports:
Over the last 35 years, at least 15 reports or commissions have dealt with science in the National Park System. These include:

The Government Accounting Office's report on NPS visitor services (1995).
"A Biological Survey for the Nation." The National Research Council's plan for establishing a National Biological Survey (1993).
The National Park Service's report entitled "Science and the National Parks II" (1993).
The Ecological Society of America's report on ecological science in the parks (1992).
The National Research Council's report entitled "Science and the National Parks" (1992).
The National Park Service's "Vail Agenda" report (1992).
The National Park Service's "Report of a Workshop for a National Park Service Ecological Research Program" (1992).
The National Parks and Conservation Association's Commission on Research and Resource Management Policy in the National Park System (1988).
The National Parks and Conservation Association's "National Park System Plan: A Blueprint for Tomorrow" (1988).
A. Starker Leopold's and Durward Allen's report entitled "A Review and Recommendations Relative to the NPS Science Program" (1977).
"National Parks for the Future" The Conservation Foundation's report on problems facing the National Park System (1972).
The National Research Council's publication entitled "A Report by the Advisory Committee to the National Park Service on Research" (1963).
A. Starker Leopold's report entitled "Wildlife Management in the National Parks" (1963).

NPCA's National Park System Plan:
In 1988, the National Parks and Conservation Association released a nine volume plan for the national parks. Volume two of this plan, entitled "Research in the Parks: An Assessment of Needs," was devoted entirely to the status of research in the parks and the shortcomings of the research program at that time. This plan contained 38 recommendations for improving the status of research in the parks.

Our recommendations are still relevant. Among other things, we concluded that:

1.Congress should enact a specific legislative mandate for NPS research which clearly defines the role of research in resource management and decision making and re-quires the completion of standardized Service-wide inventories of natural and cultural resources, and implementation of permanent monitoring programs.

2.The National Park Service should establish an independent research arm, distinct from management and operations, to assure long-term continuity and objectivity in the NPS research program. This arm should integrate natural, cultural and social science divisions under an Associate Director for Research. Regional Chiefs of Research should report directly to the respective division chiefs at WASO. All park researchers should report to the respective Regional Chief of Research.

3.Congress should establish a Science Advisory Board of demonstrably qualified ex-perts to provide independent, balanced and expert assessment of NPS natural, cul-tural, and social science needs and programs. Regional and park-specific adhoc science advisory boards should also be established.

4.The NPS should include in its annual budget request, and Congress should ap-propriate, a separate line item for research equivalent to 10% of the total operating budget of the National Park Service. Congress should specify that the funds be used to establish a servicewide projects fund; increased park and regional base funding for research, inventory and monitoring; and a contingency fund for emergency needs.

5.NPS should establish additional Cooperative Park Studies Units and cooperative agreements focusing on the social sciences, historical and archeological research. To ensure that the best available expertise is obtained, CPSU cooperative agreements should require that the CPSU administrator solicit proposals from private sector scien-tists with geographic and subject matter expertise in the parks under study.

6.Each NPS region should be required to prepare an annual report, outlining all in-house, contract, and CPSU research that has been completed that year, is still in progress, or is in need of initiation.

7.The NPS should develop and implement a standardized, yet flexible, technique for measuring visitation and visitor needs in the parks. This should include the estab-lishing of "indicator" parks that would be surveyed periodically to provide baseline in-formation, and show comparisons between parks. The results of these studies should be disseminated to concessioners and the tourism industry.

8.Funding should be provided to enable the NPS History Division to conduct the historic theme studies which are used to identify potential additions to the national park system, the national historic landmarks system, and the National Register of Historic Places. A shipwrecks theme study should be conducted and appropriate National Register nominations prepared. Where appropriate, national historic landmarks should be designated.

9.The NPS should conduct a survey assessment of the historical research function throughout the service; consider a more stable funding source for historic resource studies for natural and recreational areas as well as administrative histories that analyze policy issues; and establish base funding for cultural resource studies whose principle purpose is to provide data for interpretation.

10.The NPS should provide additional funds for the Submerged Cultural Resources Unit and the Maritime History Project so that underwater archeologists can continue to inventory and document shipwrecks before treasure hunters strip them of their re-search potential.

11.Parks with significant natural resources should develop or expand a Geographic In-formation System, a computerized mapping system that organizes data spatially, ena-bling park managers to make timely, effective management decisions.

12.The development and implementation of a comprehensive NPS natural resources inventory and monitoring program should be a high priority. The I&M program should be conducted in cooperation with adjacent landowners, state and federal agen-cies, non-governmental organizations, and the governments of other countries.

13.The NPS should establish technical research centers for each major biome, using existing Cooperative Park Study Units if possible. Topic-oriented or biome-oriented centers should be multi-organizational to foster cooperation with other agencies ex-periencing similar resource problems, and should be staffed with interdisciplinary science teams that could travel to individual parks to assist with special research problems. The centers could also serve as training and continuing education centers for researchers, resource management specialists and park managers.

The Gordon Commission

In 1989, NPCA funded, in cooperation with the National Park Service, the Commission on Research and Resource Management Policy in the National Park System, a "blue ribbon" panel whose mission was to assess the roles of research and resource management in the future of the national parks. Also known as the "Gordon Commission," after its chairman, John C. Gordon, Dean of Yale University's School of Forestry and Environmental Studies, the Commission made numerous recommendations for improving science and management in the parks. The Gordon Report contains a series of recommendations, including several that NPCA had already made in the 1988 System Plan.

In 1991, the National Park Service followed NPCA's lead by requesting that the National Research Council (NRC) of the National Academy of Sciences review the status of science-based management in the national parks. In 1992, the NRC concurred with the Gordon Commission and reported that science-based management of the parks was woefully inadequate.

The NRC made 16 major recommendations for improving park research. A recent analysis of the NRC recommendations and those made by NPCA in 1988 and 1989 indicates that each of the NRC's 16 recommendations was a restatement of a Gordon Commission recommendation.

One recommendation that appeared in all three reports was the call for a research mandate for the NPS. In December 1993, and again in late 1996, members of the NPS Directorate (now National Leadership Council) circulated a draft bill that would "provide for a program of research in the units of the National Park System," 2 but, no bill was introduced.

National Biological Survey: Impact on the National Park Service
Consistent with the plans set forth in the 1994 report entitled "A Biological Survey for the Nation," the National Park Service lost many of its researchers during the time the research mandate bill was being circulated in draft form. These former NPS res earchers joined scientists from the Cooperative Research Units of the U.S. Fish and Wildlife Service and several other federal agencies to form the National Biological Survey. 3 The result, according to a survey of NPS managers and former researchers, was the collapse of already inadequate science-based management of the national parks.

The results of a survey conducted in early 1996 by the office of the Associate Director for Natural Resource Stewardship and Science are recorded in a report entitled "Working Relationships Between The National Biological Service and the National Park Service: A Survey of Managers and Scientists." The Service described the survey results as "...representing the opinions of selected NPS managers and illustrating the range and diversity of view among NPS partners within the NBS." 4

This survey revealed the impact the establishment of the NBS had done on NPS research capacity and the application of research findings to park resources management. Survey results included the following:

1. Before the transfer of NPS scientists to the NBS, 49% of the NPS respondents reported that they had received scientific assistance "regularly."

2.Since the transfer of NPS scientists to the NBS, only 19% of the respondents reported receiving assistance from the transferred NPS scientists "regularly."

3.Since the transfer of NPS scientists to the NBS, the percentage of respondents "never" receiving scientific guidance had nearly tripled, from 11% to 32%.

4.Respondents were asked whether they received research and technical assistance from National Biological Service scientists who were not previously with the NPS. 5% reported receiving such assistance "regularly," 24% "occasionally," and 71% reported none.

The Park Service drew the following conclusions from the survey results:

1."The perceived level of research and technical assistance regularly provided by former NPS scientists has declined."

2."The proportion of managers receiving no assistance has increased."

3.One-fifth of the scientists who were transferred from NPS to the National Biological Service were either "not encouraged or actively discouraged" from assisting NPS managers after the transfer.

4.Over 50% of the scientists who were transferred from NPS to the National Biological Service "felt that their support from NPS parks had declined." 5

This status of research in the parks reached a new low on October 2, 1996 when the U.S. Geological Survey (USGS) announced the creation of its Biological Resources Division (BRD) and the appointment of Dennis B. Fenn, a former National Park Service soil scientist, as its first chief biologist. This announcement marked the transfer of NBS scientists from the National Biological Service (formerly Survey) to the USGS. It meant that former park scientists, already far removed from park managers by the bureaucracy of the NBS, had become employees of the USGS. 6

The BRD claims that it has "...a strong commitment to supporting the scientific needs of the other

bureaus within the Interior Department," according to a USGS press release. However, based on the results of the NBS experiment, there is no reason to believe that this will be the case.

This is particularly unfortunate, because, as the DOI Science Board wrote in a September 9, 1996, service-wide proposal for science-based management, ...management of the nation's lands and waters requires skillful public service supported by sound science. The challenges of the 21st century--and the choices they will shape for the American people--will demand even more skill and science. 7

NPCA strongly agrees with this statement.

Importance of Research-based Resource Management:
There are many reasons why we must work to improve research and resource management in the parks. First of all, until Congress funds research and resource management adequately, we will continue to deal with the unresolved problems this committee has faced in recent years. Until we base management decisions on the best possible scientific evidence, we will continue to be engaged in arguments based on perception and assumption, rather than on fact.

Another important reason for encouraging science-based management is to better protect our parks for the benefit of the American people. The National Park Service's Organic Act mandate requires the agency to "...conserve the scenery and the natural and historic objects and the wild life therein..." in perpetuity. We cannot achieve that goal without research because we cannot protect what we do not understand.

There are many examples of how a little research, linked to competent management, can benefit the parks.

Some examples:

1. Enhancing Visitor Experience and Resource Protection
After NPCA developed the Visitor Impact Management framework, a tool land managers can use to protect park resources from over crowding and ensure visitor enjoyment of the parks, the National Park Service began implementing a derivation of this process as the Visitor Experience and Resource Protection program. This is an example of how research can inform managers and produce benefits for parks and people.

2. Protecting Air Quality
The air quality information that has been developed through monitoring and experimentation at Shenandoah National Park and Great Smokies National Park has enabled the National Park Service to show that air pollution generated miles away can and does harm plants and trees in the parks. This information has allowed citizens to better understand how their development decisions and pollution control activities affect our national parks.

4. Protecting Park Ecology
Researchers from the University of Washington have conducted studies that are helping the park service protect the park's beautiful subalpine meadows.

5. Utilizing Partners
NPS has a cooperative agreement with the Organization of American Historians (OAH), the largest American History organization. In November 1995, OAH established a National Park Committee. As a result of this cooperation, five members of OAH spent three days at Antietam reviewing Civil War scholarship and ways it could be integrated into the National Park Service's resource management and interpretation programs there. 8

6. Studying Visitor Needs
The Visitor Service's Project Database (VSP) provides a record of visitor characteristics and needs. It is available to the public and is maintained by the NPS Visitor Services Project at the University of Idaho. It contains data collected in more than 80 units of the National Park System since 1982. The data represent snapshots in individual parks and there is no monitoring of these parks over time, but the VSP is at least a step in the right direction.

While these successes are important, they need to be multiplied many fold. There is still so much we need to know. Until we have an adequate level of research, park resources will remain at risk.

Failures and Shortcomings of NPS Research and Resource Management

While there have been many successes as a result of cooperation between researchers and resource managers, there have also been many failures. In many instances, even the most basic resource knowledge, in the hands of well-trained managers, could have prevented the irreversible loss of park resources.

Some examples:

1.Everglades
The recent crisis in the Florida Everglades has arisen in part because of a lack of basic knowledge about the ecosystem of south Florida. Had the Park Service and other agencies better understood the dynamics and hydrology of that system before its alteration began. we would not need to be devoting hundreds of millions of dollars to restoring the system.

2.Cultural Resources in the Southwest
For decades, the National Park Service has lacked the information needed to care for prehistoric ruins in the southwestern United States. As a result of this information gap, the Park Service has damaged many irreplaceable structures and ruined others. A recent initiative, announced in the FY 98 budget and known as "Vanishing Treasures," is an attempt to begin research-based management to these cultural treasures.

3.Transportation
The dramatic increases in visitation the parks have experienced since the 1950s has been met with a decades old response: building more roads for single passenger vehicles. Access to our parks will be one of the most controversial issues in our future if we do not begin to seek and apply knowledge to this management challenge. This presents an opportunity to correct our course and gain adequate knowledge before building new roads, or monorails, or funding unknown transportation strategies.

4.Water in Death Valley
During a recent visit to Death Valley, I learned that development of lands adjacent to the park could dramatically drop the area's water table and dry up already rare springs. But park managers aren't sure how development will affect the park's few oases, because the basic research on the area's hydrology has not been done. If landowners and park lovers are at odds over the allocation of water in the area, there is little we can do to resolve conflict until we have baseline data regarding the region's hydrology.

5.Global Climate Change
An additional and equally daunting challenge facing our parks is global warming. A recent, informal review conducted by NPCA has shown that 49 of our 54 national parks could lose their most significant features to global climate change. This much we think we know, but we have taken little action to counter this threat. This breakdown between knowledge and action is an additional threat to the parks.

6. Yellowstone National Park's Buffalo Management
A final, but especially timely, example of how current research, science, and information are inadequate to manage park resources is the case of the buffalo herd in Yellowstone National Park. This winter, over 1,000 American buffalo have been slaughtered in and around Yellowstone. This amounts to one-third of the park's buffalo population.

Park personnel have participated in the slaughter under the guise of "disease prevention." Federal and state bureaucrats have claimed that because the buffalo may be infected with brucellosis, they must not be allowed to commingle with domestic cattle. Nor must they be allowed to use their historic wintering grounds, on public or private lands, because they allegedly pose a threat to domestic cattle.

But the trouble is, there is no scientific evidence that documents the transmission of brucellosis from buffalo to domestic cattle in the wild. None.

One-third of Yellowstone National Park's buffalo have been sacrificed because the National Park Service, the U.S. Department of Agriculture, and the state of Montana refuse to base management on facts. This lack of facts can only lead us into conflict. This is unacceptable and it must not continue.

No one wants to put domestic cattle at risk. My family has cow-calf and dairy operations. I come from a cattle farming family.

I implore the members of the committee to steer us out of these troubled waters of management by supposition and innuendo and toward a more reasonable management informed by research results.

Conclusion

In closing, I offer a few general recommendations for improving park protection through research based resource management.

1.Before investing $5 billion or more in capital improvements for the parks, Congress should invest in intellectual capital for the parks--the scientists and the resource managers--that will make sure that every one of those dollars is wisely spent. Adequate research will help us avoid conflict and ensure that we "...conserve the scenery and the natural and historic objects and the wild life..." in perpetuity.

2.Park research should depend upon reliable links to the academic community through programs such as the Department of Interior Science Board's proposed "Cooperative Ecosystem Studies Units."

3.Because well-trained park managers are a must, Congress should fully fund the Service's resource manager training including:
-The Essential Competencies Program
-The Natural and Cultural Resources Professional Development Program

4.Congress should put science coordinators (the missing links) back into the national park system at the park level. These are not the old regional scientists. They are the professionals who wear the "decoder ring" that translates research into sound management. They are management-savvy individuals with solid scientific credentials. They are professionals who understand the Park Service's mandate for protection.

5.National coordination and communication, not control and command, are necessary. Congress should ensure national standards and coordination by supporting a structure similar to the existing Associate Directorship for Natural Resource Stewardship and Science, but with more substance, more capacity, and better connections to the field.

6.The National Park Service's research and resource management programs must be integrated and co-dependent. They must respond to local and national needs; be flexible; be capable of leveraging the resources of existing scientific organizations; and use limited NPS resources to work in partnership with other groups.

By investing research, resource management, and education we are investing in minds. And this investment in intellectual capital is a constant need. By funding park researchers and universities, we encourage students, and ultimately contribute to the betterment of society.

If we invest in infrastructure instead, we only add to the long list of bridges, roads, campgrounds, and visitors centers that need to be maintained. The challenge today is to recognize the long term benefits we will gain by investing wisely today.

NPCA respectfully requests that this Committee recognize the importance of linking research and management to better protect our parks for the benefit of this and future generations.

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